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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,195	11/08/2001	Reinder Jaap Bril	PHNL 000608	2144
24737	7590	07/27/2005		
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
EXAMINER BULLOCK JR, LEWIS ALEXANDER				
ART UNIT		PAPER NUMBER		
2195				

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/008,195

Applicant(s)

BRIL ET AL

Examiner

Lewis A. Bullock, Jr.

Art Unit

2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.
2. The information disclosure statement filed 11/12/03 fails to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office. It has been placed in the application file, but the information referred to therein has not been considered. References submitted in an international search report cannot be construed as a information disclosure statement because a copy of the publications have not been provided with the report and the listing stored on a separate sheet, which is essential in all applications not filed with priority under 35 U.S.C. 120. Therefore, the documents have not been consider and Applicant is requested to refile the IDS, preferably on a PTO-1449 or PTO/SB/08 form, listing the search report references and all documents cited in the specification which also cannot be considered.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The cited claims detail a method or system for determining the best-case response time of a periodic task. As proper under M.P.E.P. 2106, there is no tangible statutory structure to perform the method and therefore the claims are non-statutory. The system is defined in the specification to be software intended to be executed by a concrete structure. Intended usage of software does not make the claim statutory. Therefore, absent of any tangible structure executing the system makes the system claims non-statutory.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1, 7, 11, and 12 are rejected under 35 U.S.C. 102(a) as being anticipated by “Best Case Response Time Analysis for Improved Schedulability Analysis of Distributed Real-Time Tasks” by KIM et al.

As to claims 1, 11 and 12, KIM teaches a method of determining a best-case response time of a first periodic task, the method comprising: a first step of determining

that the first periodic task has a lower priority than a higher priority of a second periodic task (pg. 3, "...and $hp(i)$ denotes a set of tasks with higher priority than τ_i on the same processor node..."); characterized in that the method further comprises: a second step of determining that the best case response time of the first periodic task is substantially equal to the difference between a start of the first periodic task and a completion of the first periodic task, the start being right after a release of the first periodic task and the completion coinciding with a release of the second periodic task (pg. 3, BCRT Analysis, "To overcome the shortcomings of GGH method, the proposed BCRT analysis takes into account relative phase between tasks in the best case. Let Δ denote the minimum elapsed time between the activation of τ_i and its completion.").

As to claim 7, refer to claim 1 for rejection.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Best Case Response Time Analysis for Improved Schedulability Analysis of Distributed Real-Time Tasks" by KIM et al.

As to claims 13-18, KIM teaches calculating a tighter lower bound on response time real-time systems based on BCRT and WCRT of tasks (pg. 6). KIM also teaches the study can be extended to real-time client/server applications with different communication patterns. However, KIM does not teach that the system is a television set or set top box. Official Notice is taken in that it is well known in the art that television sets or set top boxes execute client/server applications and that both devices handle real-time execution and therefore would be obvious to one skilled in the art that the inventive teachings of KIM is operable on a television set or set top box in order to calculate tighter lower bound response time in the real-time television based on the signals received.

Response to Arguments

8. Applicant's arguments filed 4/25/05 have been fully considered but they are not persuasive. Applicant argues regarding claims 1, 11, and 12, that Kim does not teach or disclose the BCRT providing for the start of the first periodic task being right after a release of the first periodic task and the completion of the first periodic task coinciding with a release of the second periodic task. The examiner disagrees. Kim states that task t_3 is activated at time 5, 10, 19 after t_2 completes its execution on processor 1 (pg. 2). In addition, Kim states the proposed BCRT analysis takes into account relative phase between tasks in the best case. Let Δ denote the minimum elapsed time between the activation of t_i and its completion (pg. 3). Therefore, the BCRT takes into

consideration the start of the task and the completion of the task coinciding with a release of the second task.

Applicant also argues the limitations of claims 2-6 and 8-10. The examiner has found these arguments persuasive and has removed the rejection to them.

Applicant then challenges the examiner's assertion that it would be obvious to one skilled in the art that the teachings of Kim is operable on televisions and set-top boxes. Kim teaches the calculating of a BCRT and WCRT on a distributed real-time system throughout the disclosure and that the study can be extended to real-time client/server applications with different communication patterns (pg. 6). Prior Art reference, "Worst-Case Execution Time Analysis on Modern Processors" by Nilsen teaches that real-time applications execute on CD-I interactive audio-visual CD playback devices, television-top multimedia controllers, and intelligent computers embedded within future automobiles (pg. 20). Therefore this reference would account as an illustration that a distributed real-time system executing a distributed real-time application would be a television or set-top box (television controller). "On Non-Preemptive Scheduling of Periodic and Sporadic Tasks" by Jeffay is another illustration of executing real-time applications on a real-time system wherein the real-time system is a television or set top box (3-dimensional graphics display system which uses a head-mounted display system consisting of a helmet with miniature television monitors embedded in it (pg. 1). Therefore the claims are rejected as detailed above.

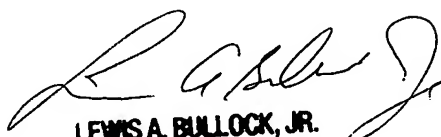
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lewis A. Bullock, Jr. whose telephone number is (571) 272-3759. The examiner can normally be reached on Monday-Friday, 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 25, 2005



LEWIS A. BULLOCK, JR.
PRIMARY EXAMINER